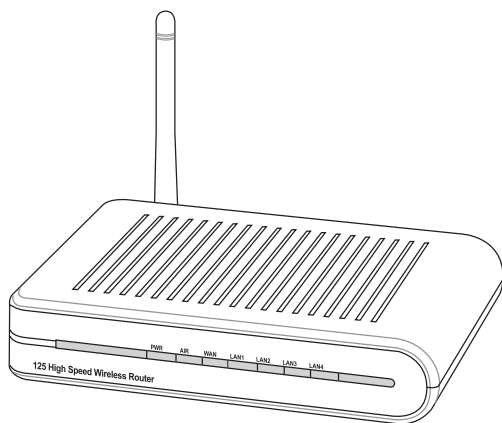




WL-520g Wireless Router



User Manual



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1. Package Contents

- WL-520g wireless router*1
- Power adaptor*1
- External antenna*1
- Utility CD*1
- RJ45 cable*1
- Quick Start Guide*1

Manufacturer Contact Information

ASUSTeK COMPUTER INC. (Asia-Pacific)

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General (tel): +886-2-2894-3447

Web site address: www.asus.com.tw

General (fax): +886-2-2894-7798

General email: info@asus.com.tw

ASUS COMPUTER INTERNATIONAL (America)

Company address: 44370 Nobel Drive, Fremont, CA 94538, USA

General (fax): +1-510-608-4555

Web site address: usa.asus.com

Technical support

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Support (fax): +1-502-933-8713

Online support: <http://vip.asus.com/eservice/techserv.aspx>

ASUS COMPUTER GmbH (Germany & Austria)

Company address: Harkort Str. 25, D-40880 Ratingen, Germany

General (tel): +49-2102-95990

Web site address: www.asuscom.de

General (fax): +49-2102-959911

Online contact: www.asuscom.de/sales

Technical support

Components: +49-2102-95990

Online support: www.asuscom.de/support

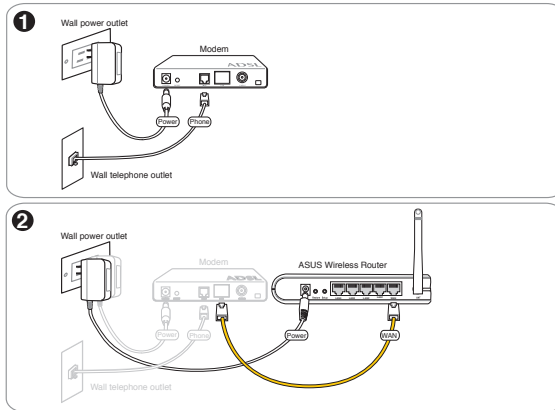
Notebook: +49-2102-959910

Support (fax): +49-2102-959911

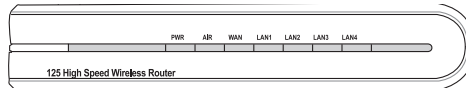


2. Connecting ADSL Modem and Wireless Router

1) Cable Connection



2) Status Indicators



PWR (Power)

| | |
|----------------|-------------------------|
| Off | No power |
| On | System ready |
| Flashing-slow | Firmware upgrade failed |
| Flashing-quick | EZsetup processing |

AIR (Wireless Network)

| | |
|----------|---|
| Off | No power |
| On | Wireless system ready |
| Flashing | Transmitting or receiving data (wireless) |

WAN (Wide Area Network)

| | |
|----------|--|
| Off | No power or no physical connection |
| On | Has physical connection to an Ethernet network |
| Flashing | Transmitting or receiving data (through Ethernet wire) |

LAN 1-4 (Local Area Network)

| | |
|----------|--|
| Off | No power or no physical connection |
| On | Has physical connection to an Ethernet network |
| Flashing | Transmitting or receiving data (through Ethernet wire) |



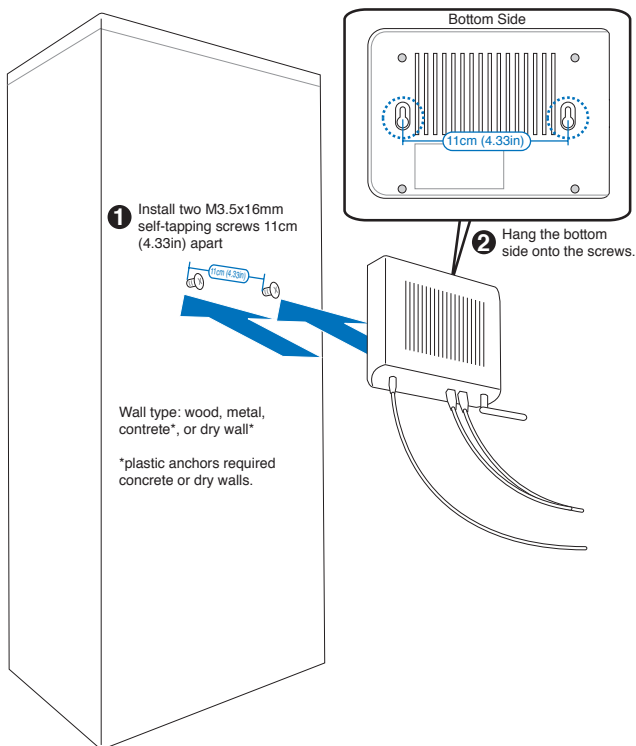
3) Wall Mounting Option

Out of the box, the ASUS Wireless Router is designed to sit on a raised flat surface like a file cabinet or book shelf. The unit may also be converted for mounting to a wall or ceiling.

Follow these steps to mount the ASUS Wireless Router to a wall:

1. Install two screws onto a wall until only 0.6cm (1/4in) is showing.
2. Latch the upper two hooks of the bottom side onto the screws.

Note: Readjust the screws if you cannot latch the ASUS Wireless Router onto the screws or if it is too loose.





3. Configuring the Wireless Router



Note: 1) Before you start, we recommend using a wired connection for initial configuration, which will avoid possible setup problem due to wireless uncertainty. 2) ASUS also provides an EZSetup button for fast wireless configuration. If you prefer EZSetup to arrange for your wireless network configuration, please refer to chapter 6 for more information.

The ASUS Wireless Router can be configured to meet various usage scenarios. Some of the factory default settings may suit your usage; however, others may need changing. Prior to using the ASUS Wireless Router, you must check the basic settings to guarantee it will work in your environment. Configuring the ASUS Wireless Router is done through a web browser. You need a Notebook PC or desktop PC connected to the ASUS Wireless Router (either directly or through a hub) and running a web browser as a configuration terminal. The connection can be wired or wireless. For the wireless connection, you need an IEEE 802.11g/b compatible device, e.g. ASUS WLAN Card, installed in your Notebook PC. You should also disable WEP and set the SSID to "default" for your wireless LAN device. If you want to configure the ASUS Wireless Router or want to access the Internet through the ASUS Wireless Router, TCP/IP settings must be correct. Normally, the TCP/IP setting should be on the IP subnet of the ASUS Wireless Router.



Note: Before rebooting your computer, the ASUS Wireless Router should be switched ON and in ready state.

1) ASUS Wireless Router Wired Connection

One RJ-45 cable is supplied with the ASUS Wireless Router. Auto crossover function is designed into the ASUS Wireless Router so you can use either straight-through or crossover Ethernet cable. Plug one end of the cable into the WAN port on the rear of the ASUS Wireless Router and the other end into the Ethernet port of your ADSL or Cable modem.

Wireless-Connection



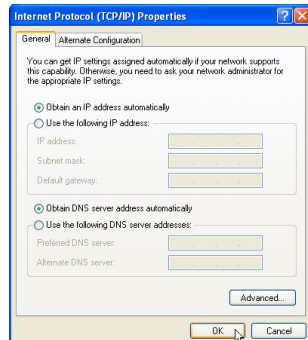
Note: If configuration is done via wired connection, ignore this.

Refer to your wireless adapter user's manual on associating with the ASUS Wireless Router. The default SSID of the ASUS Wireless Router is "default" (lower case), encryption is disabled and open system authentication is used.

2) Setting IP address for Wired or Wireless Connection

Get IP Automatically

The ASUS Wireless Router incorporates a DHCP server so the easiest method is to set your PC to get its IP address automatically and reboot your computer. So the correct IP address, gateway, DNS (Domain Name System Server) can be obtained from the ASUS Wireless Router.





Note: Before rebooting your PC, the ASUS Wireless Router should be switched ON and in ready state.

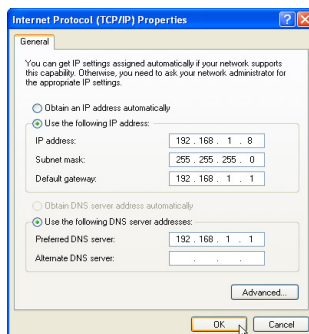
Setting IP Manually

If you want to set your IP address manually, the following default settings of the ASUS Wireless Router should be known:

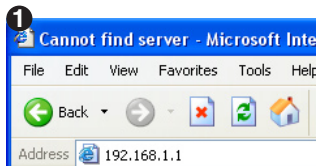
- IP address 192.168.1.1
- Subnet Mask 255.255.255.0

If you set your computer's IP manually, it needs to be on the same segment. For example:

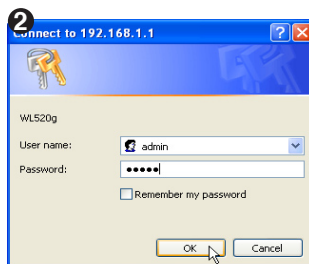
- IP address 192.168.1.xxx (xxx can be any number between 2 and 254 that is not used by another device)
- Subnet Mask 255.255.255.0 (same as the ASUS Wireless Router)
- Gateway 192.168.1.1 (this is the ASUS Wireless Router)
- DNS 192.168.1.1 (ASUS Wireless Router IP address or your own).



3) Configuring the Wireless Router

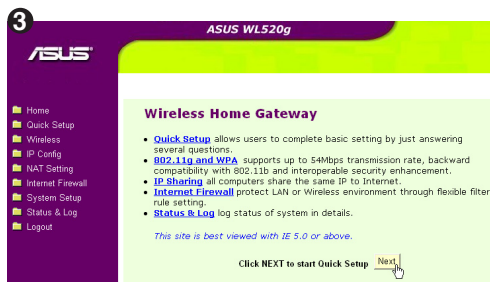


Enter the following address in your web browser: <http://192.168.1.1>



Defaults

User name: **admin** Password: **admin**



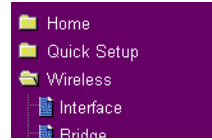
After logging in, you will see the ASUS Wireless Router home page.

The homepage displays quick links to configure the main features of the router.



4) Quick Setup

To start quick setup, click **Next** to enter the “Quick Setup” page. Follow the instructions to setup the ASUS Wireless Router.



- 1 Select your time zone or the closest region. Click **Next** to continue.

Select Time Zone

Please choose the time zone where you are locating in.

Time Zone: GMT+08:00 Beijing, Hong Kong

Next



ASUS wireless router WL520g supports five types of ISP services— cable, ADSL (PPPoE, PPTP, static IP address), and Telstra BigPond. Since each service has its own protocols and standards, therefore, during the setup process, there are different identity settings demanded by WL-520g. Select the correct connection type. Click **Next** to continue.

Cable User

If you are receiving services from cable or other ISP assigning IP addresses automatically, please select **Cable Modem or other connection that gets IP automatically**. If you are using cable services, your ISP may have provided you with hostname, MAC address, and heartbeat server, if true, please fill these information into the boxes on the setting page; if not, click **Next** to skip this step.

| Select Internet Connection Type | Fill information Required by ISP |
|--|--|
| <p>WL520g supports several kinds of connection to Internet through its WAN port. Please select connection type you need. In addition, before getting on Internet, please make sure you have connected WL520g's WAN port to your DSL or Cable Modem.</p> <p><input checked="" type="radio"/> Cable Modem or other connection type that gets IP automatically.</p> <p><input type="radio"/> ADSL connection that requires username and password. It is known as PPPoE.</p> <p><input type="radio"/> ADSL connection that requires username, password and IP address. It is known as PPTP.</p> <p><input type="radio"/> ADSL or other connection type that uses static IP address.</p> <p><input type="radio"/> Telstra BigPond Cable Modem Service.</p> <p>Prev Next</p> | <p>Your ISP may require the following information to identify your account. If not, just press Next to ignore it.</p> <p>Host Name: <input type="text"/></p> <p>MAC Address: <input type="text"/></p> <p>Heart Beat Server: <input type="text"/></p> <p>Prev Next</p> |
| | <p>WAN IP Setting</p> <p>Fill TCP/IP setting for WL50GE to connect to Internet through WAN port.</p> <p>Get IP automatically? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>IP Address: <input type="text"/></p> <p>Subnet Mask: <input type="text"/></p> <p>Default Gateway: <input type="text"/></p> <p>Get DNS Server automatically? <input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>DNS Server 1: <input type="text"/></p> <p>DNS Server 2: <input type="text"/></p> <p>Prev Next</p> |



PPPoE User

If you are PPPoE service user, please select the second line. You would be required to input the username and password provided by your ISP.

| Select Internet Connection Type | Set Your Account to ISP |
|--|--|
| WL520g supports several kinds of connection to Internet through its WAN port. Please select connection type you need. In addition, before getting on Internet, please make sure you have connected WL520g's WAN port to your DSL or Cable Modem. | If you apply an account with dynamic IP. You must get user account and password from your ISP. Please fill this data into the following fields carefully. Or, if you apply an ADSL account with static IP, just ignore user name and password information. |
| <input type="radio"/> Cable Modem or other connection type that gets IP automatically. | User Name: <input type="text" value="abc@inet.net"/> |
| <input type="radio"/> ADSL connection that requires username and password. It is known as PPPoE. | Password: <input type="password" value="*****"/> |
| <input checked="" type="radio"/> ADSL connection that requires username, password and IP address. It is known as PPTP. | <input type="button" value="Prev"/> <input type="button" value="Next"/> |
| <input type="radio"/> ADSL or other connection type that uses static IP address. | |
| <input type="radio"/> Telstra BigPond Cable Modem Service. | |
| <input type="button" value="Prev"/> <input type="button" value="Next"/> | |

PPTP User

If you are using PPTP services, you would be asked to input the username, password, as well as IP address provided by your ISP.

| Select Internet Connection Type | Set Your Account to ISP |
|--|--|
| WL520g supports several kinds of connection to Internet through its WAN port. Please select connection type you need. In addition, before getting on Internet, please make sure you have connected WL520g's WAN port to your DSL or Cable Modem. | If you apply an account with dynamic IP. You must get user account and password from your ISP. Please fill this data into the following fields carefully. Or, if you apply an ADSL account with static IP, just ignore user name and password information. |
| <input type="radio"/> Cable Modem or other connection type that gets IP automatically. | User Name: <input type="text" value="henry200@adsl-comfort"/> |
| <input type="radio"/> ADSL connection that requires username and password. It is known as PPPoE. | Password: <input type="password" value="*****"/> |
| <input checked="" type="radio"/> ADSL connection that requires username, password and IP address. It is known as PPTP. | <input type="button" value="Prev"/> <input type="button" value="Next"/> |
| <input type="radio"/> ADSL or other connection type that uses static IP address. | |
| <input type="radio"/> Telstra BigPond Cable Modem Service. | |
| <input type="button" value="Prev"/> <input type="button" value="Next"/> | |

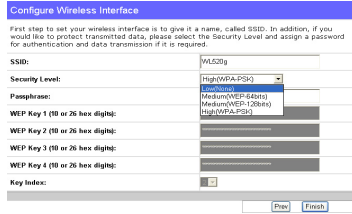
| WAN IP Setting | |
|---|---|
| Fill TCP/IP setting for WL520g to connect to Internet through WAN port. | |
| Get IP automatically? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| IP Address: | <input type="text" value="210.31.111.12"/> |
| Subnet Mask: | <input type="text" value="255.255.255.0"/> |
| Default Gateway: | <input type="text" value="210.31.111.1"/> |
| Get DNS Server automatically? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| DNS Server 1: | <input type="text" value="168.95.1.1"/> |
| DNS Server 2: | <input type="text" value=""/> |
| <input type="button" value="Prev"/> <input type="button" value="Next"/> | |

Static IP User

If you are using ADSL or other connection type that uses static IP addresses, please select the fourth line, then input the IP address, subnet mask, and default gateway provided by your ISP. You could choose to specify certain DNS servers, or select to get DNS automatically.

| Select Internet Connection Type | WAN IP Setting |
|--|---|
| WL520g supports several kinds of connection to Internet through its WAN port. Please select connection type you need. In addition, before getting on Internet, please make sure you have connected WL520g's WAN port to your DSL or Cable Modem. | Fill TCP/IP setting for WL520g to connect to Internet through WAN port. |
| <input type="radio"/> Cable Modem or other connection type that gets IP automatically. | Get IP automatically? <input checked="" type="radio"/> Yes <input type="radio"/> No |
| <input type="radio"/> ADSL connection that requires username and password. It is known as PPPoE. | IP Address: <input type="text" value="210.31.111.12"/> |
| <input type="radio"/> ADSL connection that requires username, password and IP address. It is known as PPTP. | Subnet Mask: <input type="text" value="255.255.255.0"/> |
| <input checked="" type="radio"/> ADSL or other connection type that uses static IP address. | Default Gateway: <input type="text" value="210.31.111.1"/> |
| <input type="radio"/> Telstra BigPond Cable Modem Service. | Get DNS Server automatically? <input checked="" type="radio"/> Yes <input type="radio"/> No |
| | DNS Server 1: <input type="text" value="168.95.1.1"/> |
| | DNS Server 2: <input type="text" value=""/> |
| <input type="button" value="Prev"/> <input type="button" value="Next"/> | <input type="button" value="Prev"/> <input type="button" value="Next"/> |

- 2 After setting the connection type, you are to set up your wireless interface. First, give an SSID (Service Set Identifier), which is a unique identifier attached to packets sent over WLANs. This identifier emulates a password when a wireless device attempts communication on the WLAN. Because an SSID distinguishes WLANs from each other, access points and wireless devices trying to connect to a WLAN must use the same SSID.



- 3 Also, if you want to protect transmitted data, select a middle or high Security Level.

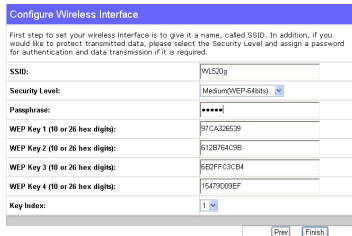
Medium : only users with the same WEP key are to connect to this access point and to transmit data using 64bits or 128bits WEP key encryption.

High: only users with the same WPA pre-shared key are to connect to this access point and to transmit data using TKIP encryption.

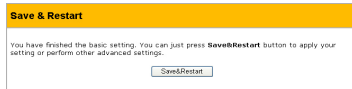


The ASUS wireless router configuration page features a convenient approach to setup the WEP Keys: with only a few taps on your keyboard to define the Passphrase, the system will automatically generate four strings of WEP Keys. For ASUS wireless adaptor users, it is no longer necessary to input long and complicated WEP Keys when connecting the router with the wireless client; the Passphrase provides an easy way for setting up your wireless environment!

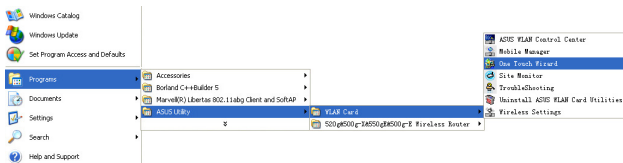
For example, if we input select WEP-64bits encryption mode, input 11111 as Passphrase, then the following WEP Keys are generated as shown in the right picture. Record the Passphrase and the WEP keys on your notebook, then click Save.



- 4 Click **Finish** to continue. You are prompted to save the settings. Click **Save&Restart** to save the settings to the ASUS Wireless Router and enable the new settings.

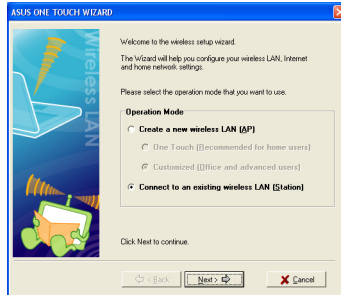


- 5 Next we are to setup encrypted wireless connection for wireless router and wireless client. If you have installed ASUS wireless adaptor as well as the utility, click **Start** -> **Programes** -> **ASUS Utility** -> **WLAN Card** -> **One Touch Wizard** to open the connection setup utility on the client end.

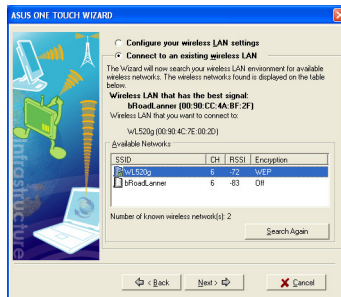




- 6 Select **Connect to an existing wireless LAN (Station)** when the welcome window appears, then click **Next**.



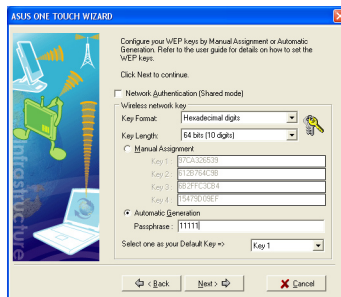
- 7 ASUS ONE TOUCH WIZARD searches and displays all the available stations as shown in the picture. Select WL520g and press **Next** to continue.



- 8 The setup wizard then asks for encryption setup. Set Key Length as **64 bits (10 digits)** as we have previously set on WL-520g, then select **Automatic Generation** and input **11111** into the Passphrase box.

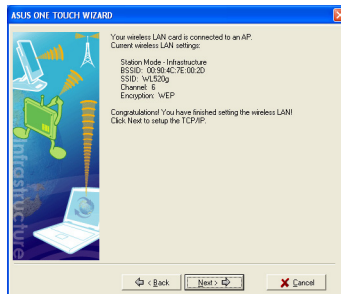


Note: The encryption mode on your client must be the same with that on your wireless router.



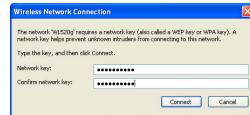
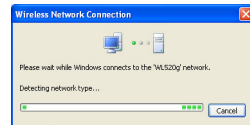
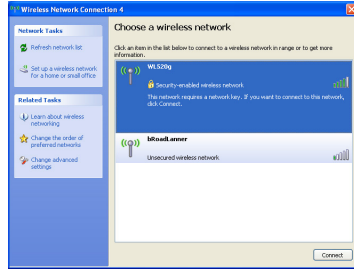
- 9 Wait for several seconds to get the client connected to the wireless router. Then a screen informing the result of the connection would appear. Press **Next** to continue.

- 10 Then you will see the IP configuration screen. Setup the client IP address according to your network condition. After the setup is completed, Click **Finish**.

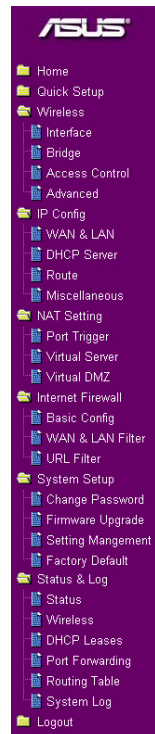




- 5 For non-ASUS wireless adaptor users, you can set up the wireless connection between your computer and the wireless router with Windows® Zero-Configure function. Right click the **Network Neighbour** on the desktop of your client and click **Property**, then in the Network Connection window, double-click **Wireless Network Connection** icon, a window with all available stations appears. Select WL520g and click **Connect**.
- 6 The connection process would take about several seconds.
- 7 Then a window prompts out asking you to input the network keys, input the 10-digit key you have previously recorded in your notebook, then click **Connect** to complete connection.



To adjust other settings, click on items on the menu to reveal a submenu and follow the instructions to setup the ASUS Wireless Router. Tips are given when you move your cursor over each item.





4. Commonly Used Advanced Features

The following pages are setup examples of commonly used advanced features. You could setup these features in web browser.

1) How to Setup Encryption

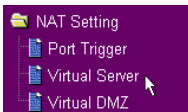
WL-520g Encryption Setup

Please refer to P.7 for encryption setup information or to use ASUS EZSetup features which enable a quick encryption setup through several clicks (Page 25-26).

2) Setting up a Server in Your LAN



Virtual Server is a kind of technology which enables a computer to receive specialized packets from network. It is to assign a certain host to act as a link between inner LAN and outside Web, FTP server. Virtual DMZ provides an all-port-match function, which grants specified computers unlimited authority to get access to network resources. The difference between Virtual Server and Virtual DMS lies on the ports they enable respectively: Virtual Server just open several ports while Virtual DMZ open all ports to the network.

1

Click **Virtual Server** in NAT Setting folder to open the NAT configuration page.

2

Select **Yes** to enable virtual server. For example, host 192.168.1.100 is set as virtual server with its ports 20,21 (FTP) accessible to outside users. Therefore, FTP requests from outside users would be forwarded to the host.

| Port Range | Local IP | Local Port | Protocol | Description |
|------------|---------------|------------|----------|--------------------|
| 20:21 | 192.168.1.100 | 21 | FTP | FTP Server (20:21) |

3

Click **Finish**.

4

Click **Save & Start** to restart the router and apply the settings.

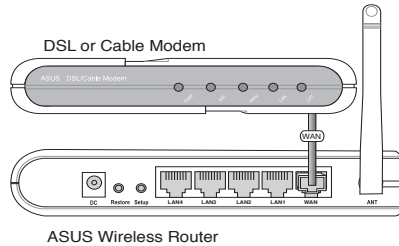
Save&Restart will save all setting you have changed to WL520g and restart it. Please click Save&Restart button to continue.

Save&Restart



3) Setting up Switching Hub & Pure AP (Non IP Share NAT)

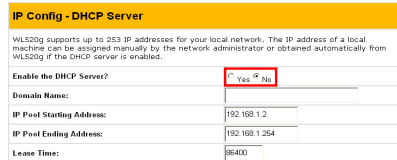
- 1 Connect the LAN port from a DSL or Cable modem to one of the LAN ports on the wireless router.



- 2 Select **DHCP Server** in IP Config folder.



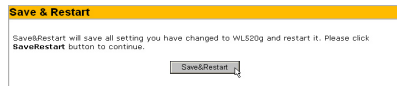
- 3 Disable the **DHCP Server** function.



- 4 Click **Finish**.



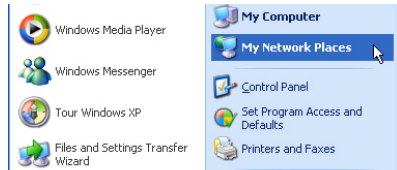
- 5 Click **Save & Restart**.

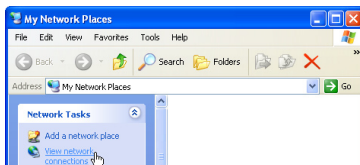
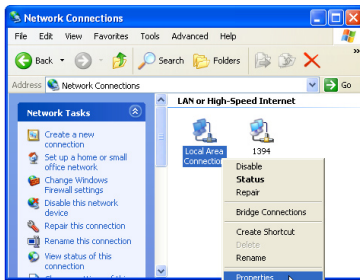
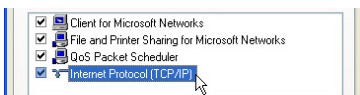
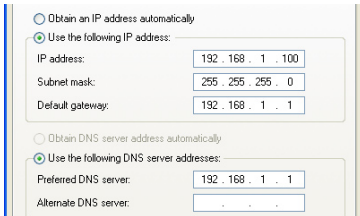
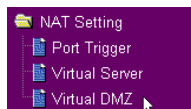
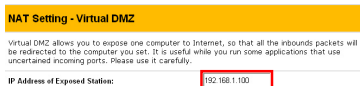
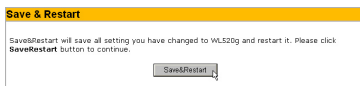


4) Setting up Net Meeting, MSN, Online Gaming, and Remote Control Programs

Virtual DMZ allows you to expose one computer to Internet, so that all inbound packets will be redirected to the computer you set. It is useful while running some applications which using uncertain incoming ports. Please use it carefully.

- 1 First we are to get the IP address of the host. Open the Windows® Start menu and select **My Network Places**.



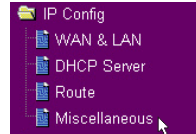
**2** Click **View network connections**.**3** Right click **Local Area Connection** and select **Properties**.**4** Double-click **Internet Protocol (TCP/IP)**.**5** Get the current TCP/IP settings.**6** Click **Virtual DMZ** in the NAT Settings menu.**7** Enter the IP address of the host and click **Finish**.**8** Click **Save & Restart**.

5) Setting up DDNS



Dynamic DNS (DDNS) allows user to export host name to Internet through DDNS service provider. Each time the ASUS Wireless Router connect to Internet and get an IP address from ISP, this function will update your IP address to DDNS service provider automatically, so that any user on Internet can access the wireless network or servers behind it through a predefined name registered in DDNS service provider.

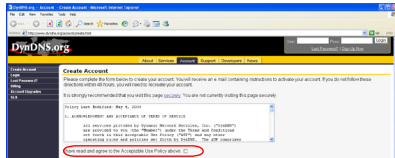
- 1 Click **Miscellaneous** from IP Config folder.



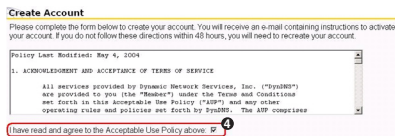
- 2 Enable the DDNS Client.
If you have not acquired a DDNS account, click **Free Trial** to apply for one.



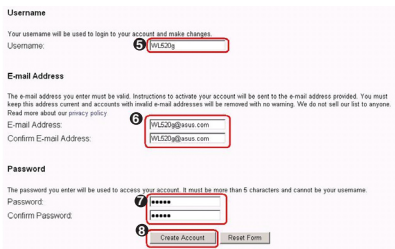
- 3 After clicking Free Trial, you would be directed to www.DynDNS.org, where you could register and apply for DDNS services.



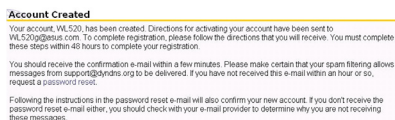
- 4 Read the policy and select "I have read..."



- 5 Enter your user name, e-mail address, password for this account, and then click **Create Account**.



- 6 You would see this message informing that your account has been created. You will receive an e-mail to activate the account.





- 7 Open your e-mail to find the activation letter. Click the hyperlink to activate your account.

Your DynDNS.org user account 'WL520g' has been created. You must visit the confirmation address below within 48 hours of the time this e-mail was sent to complete the account creation process.

Our basic service offerings are free, but they are supported by our premium services. See <http://www.dyndns.org/services/> for a full listing of all of our available services.

To confirm your account, please go to the address below:

https://www.dyndns.org/account/confirm_UO1yC2Re3qweyBx-SF9JA

- 8 Then press login.

Account Confirmed

The account 'WL520g' has been confirmed. You can now login and start using your account.

We have a system announcements mailing list you may wish to subscribe to - this list is used for notifications of new services, changes to services, and important system maintenance/updates notifications. To subscribe, simply send an e-mail to announce-subscribe@lists.dyndns.org

- 9 Enter your user name and password you have set when you were applying for the account.

Login

You must have cookies enabled to access your account. (Why Cookies?)

Username: WL520g
Password: *****

- 10 After logging in, you would see the welcome message.

Logged In

You are currently logged in as: WL520g (Logout)

- 11 Select Services tab.

DynDNS.org
About | **Services** | Account | Support | Developers | News

Custom DNS
Secondary DNS
MailHop
Domain Registration
Network Monitoring
WebHosting
Dynamic DNS
Static DNS
WebSite
Pricing

DNS Services
Custom DNS™
Custom DNS service is a full DNS solution for newly purchased domains or domains you already own. A web-based interface provides complete control over resource records and your entire domain including support for dynamic DNS and automatic updates.
Secondary DNS™
Secondary DNS service provides a secondary DNS server for your domain, so that you have a backup (even if your primary goes down, and to share the load of answering DNS queries).

Mail Services
MailHop™ Backup MX
Make sure you always get is offline for extended periods of time. Mail queries with no limits on how much.
MailHop™ Forward
Set up mail-based redirection without running your MailHop Forwarding service with our spam scanning & all addresses on your domain.

- 12 Click Add Host.

WL520g Billing History | Logout

Account Settings
E-mail: WL520g@attol.com Password: *****
Edit Profile Delete Account
Change Username

Visit the service-specific pages by following the linked service names below for more details on them.

Your Hosts & Zones

| Custom DNS (Add Zone) | Secondary DNS (Add Zone) |
|---------------------------------------|--------------------------|
| Domain Registration (Register Domain) | MailHop (Add MailHop) |
| Dynamic DNS (Add Host) | Static DNS (Add Host) |
| WebHop (Add Host) | MyWebHop (Add Host) |

- 13 Name your hostname and click Add Host.

New Dynamic DNS Host

Hostname: wl520g dyndns.org
For your own domain (eg: yurname.com), use Custom DNS.
IP Address: 61.230.200.133
Enable Wildcard: ☐
Mail Exchanger (optional): ☐ Backup MX?

- 14 You will see this message when your hostname is successfully created.

Hostname Created

The hostname you have requested has been created. The information is as follows:

Hostname: wl520g.dyndns.org
IP Address: 61.230.200.133
Wildcard: N
Mail Exchanger: None
Backup MX: N

- 15 Fill your DDNS account data in the DDNS Setting page of your router.

DDNS Setting

Dynamic-DNS (DDNS) allows you to export your server to Internet with a unique name, even though you have no static IP address. Currently, several DDNS clients are embedded in WL520g. You can click Free Trial below to start with a free trial account.

Enable the DDNS Client? ☒ Yes ☐ No

Server: WWW.DYDNS.ORG [Free Trial](#)

User Name or E-mail Address: WL520g

Password or DDNS Key: *****

Host Name: w520g.dydns.org

Enable wildcard? ☐ Yes ☒ No

Update Manually:

- 16 Click **Finish**.

Click **Save & Restart**.

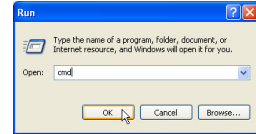
Save & Restart

Save&Restart will save all setting you have changed to WL520g and restart it. Please click Save&Restart button to continue.

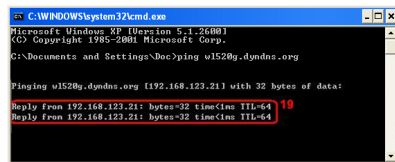
- 17 Now we are to verify whether DDNS is working. Click Start menu and select **Run...**



- 18 Type in **cmd** and click **OK** to open the DOS console.



- 19 Type **ping w520g.dydns.org** (your host name). If reply information is displayed, the DDNS is working correctly.



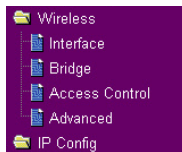
6) Setting up WDS

Wireless bridge, also known as Wireless Distribution System or WDS, allows connection to one or more access points. We now take an example to show how to setup WDS for two APs. In this example, AP1, with MAC address of 00:0E:A6:A1:3F:6E and IP address of 192.168.1.1, will operate in "Hybrid" mode; AP2, with MAC address of 00:0E:A6:A1:3F:87 and IP address of 192.168.1.2, will also be set to "Hybrid" mode, but it would not assign IP addresses to clients. Only one DHCP server in the WDS system is allowed, that is AP1 in this example.

| | Access Point A | Access Point B |
|-----------------|----------------|----------------|
| SSID | WL520g | WL520g |
| LAN IP Address | 192.168.1.1 | 192.168.1.2 |
| Encryption | NONE | NONE |
| Wireless Bridge | Hybrid Mode | Hybrid Mode |
| MAC Address | 000ea6a13f6e | 000ea6a13f87 |
| Allow Anonymous | NO | NO |



- 1 First, we are to set up AP1. Choose Bridge in the Wireless folder.



- 2 Set the SSID as WL520g and WEP Encryption as None. We suggest AP1 and AP2 using the same SSID.

Wireless - Interface

| | |
|------------------------|--|
| SSID: | WL520g |
| Channel: | Auto |
| Wireless Mode: | Auto <input type="checkbox"/> 54g Protection |
| Authentication Method: | Open System or Shared Key |
| WPA Encryption: | TLS/CP |
| WPA Pre-Shared Key: | |
| WEP Encryption: | None |

- 3 Select WAN & LAN in the IP Config folder.

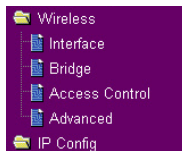


- 4 Confirm that the IP address of AP1 is 192.168.1.1.

LAN IP Setting

| | |
|--------------|---------------|
| IP Address: | 192.168.1.1 |
| Subnet Mask: | 255.255.255.0 |

- 5 Enter the **Bridge** page again.



- 6 Select **Hybrid** as AP mode. Thus, AP1 will be both AP and WDS. If you want to use wireless function only, please choose **WDS Only**.

Wireless - Bridge

Wireless bridge (also known as Wireless Distribution System or WDS) function allows you to connect to one or many APs through wireless.

| | |
|---------------------------------------|---|
| AP Mode: | AP Only |
| Channel: | WDS Only |
| Connect to APs in Remote Bridge List? | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Allow anonymous? | <input type="radio"/> Yes <input checked="" type="radio"/> No |

- 7 When you choose WDS or Hybrid mode, you will see a message demanding a fixed channel for WDS.



- 8 Select a fixed channel for WDS. In this example, we set it as Channel 3.

Wireless - Bridge

| | |
|---------------------------------------|---|
| AP Mode: | WDS Only |
| Channel: | 3 |
| Connect to APs in Remote Bridge List? | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Allow anonymous? | <input type="radio"/> Yes <input checked="" type="radio"/> No |

Remote Bridge List

| MAC Address |
|-------------|
| |

- 9 Enable **Connect to APs in Remote Bridge List** to connect to the other APs in your list.

| | |
|---------------------------------------|---|
| Channel: | 3 |
| Connect to APs in Remote Bridge List? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Allow anonymous? | <input checked="" type="radio"/> Yes <input type="radio"/> No |

If you want to allow anonymous user to login your network, you can select **Yes** in **Allow anonymous** field. In this example, we do not allow anonymous users.

- 10 Enter the MAC address of AP2, i.e. 000ea6a13f87.

Press **Add** button to add the MAC address to your list.

| Remote Bridge List | |
|--|---|
| MAC Address | <input type="text" value="000ea6a13f87"/> |
| <div> <input type="button" value="Add"/> <input type="button" value="Del"/> </div> | |
| <div> <input type="button" value="Restore"/> <input type="button" value="Finish"/> <input type="button" value="Apply"/> </div> | |

- 11 Press **Finish** button.

| |
|---|
| <div> <input type="button" value="Restore"/> <input checked="" type="button" value="Finish"/> <input type="button" value="Apply"/> </div> |
|---|

- 12 Press **Save & Start** button. Then, we are to setup AP2.

| Save & Restart |
|--|
| Save&Restart will save all setting you have changed to WL520g and restart it. Please click Save&Restart button to continue. |
| <div> <input type="button" value="Save&Restart"/> </div> |

- 13 Enter the web-based configuration page on AP2. Repeat step 1-2 to setup the same SSID with AP1. Then select **WAN & LAN** page in **IP Config** folder.



- 14 Set the LAN IP address of AP2 to 192.168.1.2.

| LAN IP Setting | |
|----------------|--|
| IP Address: | <input type="text" value="192.168.1.2"/> |
| Subnet Mask: | <input type="text" value="255.255.255.0"/> |

- 15 Next, we are to disable the DHCP server function of AP2 since AP1 is the only DHCP server in the wireless LAN. Enter the **DHCP Server** page in **IP Config** folder.



- 16 Choose **No** to disable DHCP Server and press **Apply** button.

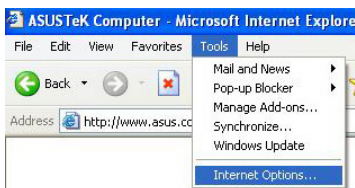
| IP Config - DHCP Server | |
|---|---|
| WL520g supports up to 253 IP addresses for your local network. The IP address of a local machine can be assigned manually by the network administrator or obtained automatically from WL520g if the DHCP server is enabled. | |
| Enable the DHCP Server? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Domain Name: | <input type="text"/> |
| IP Pool Starting Address: | <input type="text" value="192.168.1.2"/> |
| IP Pool Ending Address: | <input type="text" value="192.168.1.254"/> |
| Lease Time: | <input type="text" value="3600"/> |
| Default Gateway: | <input type="text"/> |

- 17 Repeat step 5-10. Then enter the MAC address of AP1, i.e., 000ea6a13f6e. Repeat step 11-12. After reboot, WDS would work.



5. Trouble Shooting

1. Cannot access web browser for router configuration



1. Open a web browser and open "Internet Options" dialog box.
2. Click on **Delete Cookies** and **Delete Files**.

2. Cannot Establish Connection via Wireless

Out of Range:

Put the router closer to the client.

Try to change the channel setting.

Authentication:

Can use a wire-connected computer to connect to router.

Check the wireless security setting,

Or can do a hard reset on the router.

Couldn't find the router:

Do the hard restore on the router and test again.

Check the setting in the wireless adapter.

Such as SSID and encryption setting.

3. Cannot get access to the Internet via wireless LAN adapter

- Move the router closer to the client.
- Check whether the wireless adapter is connected to the correct AP.
- Check whether the wireless channel in use conforms to the channels available in your country/ area.
- Check encryption setting.
- Check whether the ADSL cable is plugged to the correct port.
- Retry by another Ethernet cable.



4. Internet is not accessible

- Check the lights on ADSL modem and Wireless Router
- Check the "WAN" led on the router is on or not. If the led isn't on, please change the cable to try again.

4.1. When ADSL Modem "Link" light is on (not blinking), this means Internet Access is Possible.

- Restart your computer.
- Reconfigure the settings for ASUS Router and please refer to the Quick Setup Guide of the WL-520g.
- Check whether the WAN LED on the router is on or not.
- Check wireless encryption settings
- Check whether the computer can get the IP address or not. (via both wired network and wireless network)
- Check whether your Web browser is configured to use the local LAN, and is not configured to use a proxy server.

4.2. If the ADSL "LINK" light blinks continuously or stays off, Internet access is not possible - the Router is unable to establish a connection with the ADSL network.

- Check that your cables are connected properly.
- Disconnect the power cable from the modem, wait a few minutes, then reconnect the cable.
- If the ADSL light continues to blink or stays off, contact your ADSL service provider.

5. Network name or encryption keys are unknown

- Can try to setup the wired connection for setup the wireless encryption again.
- Can do the hard reset on the router.

6. How to reset to defaults

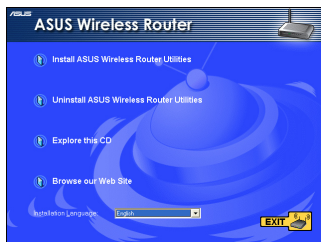
The following are factory default values. These values will be present when you first receive your ASUS Wireless Router, if you push the restore button on the back of the ASUS Wireless Router over 5 seconds, or if you click the "Restore" button on the "Factory Default" page under "Advanced Setup".

| | | | |
|--------------|----------------------------|---------------|---------------|
| User Name: | admin | Subnet Mask: | 255.255.255.0 |
| Password: | admin | DNS Server 1: | 192.168.1.1 |
| Enable DHCP: | Yes (if plug in Wan cable) | DNS Server 2: | (Blank) |
| IP address: | 192.168.1.1 | SSID: | default |
| Domain Name: | (Blank) | | |

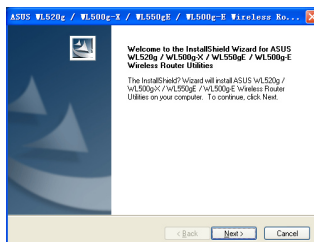


6. Additional Information: Router and Client Wireless Connection Setup

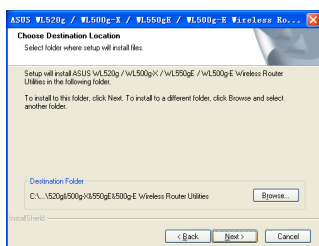
1) Utility Installation for WL-520g



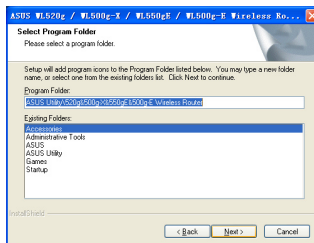
1. Click the first line **Install ASUS Wireless Router Utilities** to run the setup installation program.



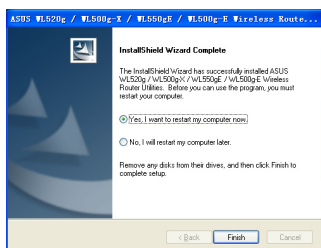
2. Click **Next** to continue.



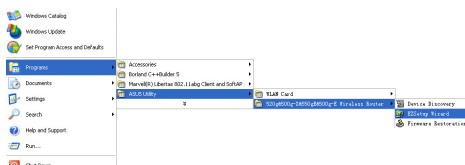
3. Click **Next** to confirm the designated location for installation.



4. Select a program folder and click **Next**.



5. After completing installation, Restart Computer dialog box will appear. Select **Yes** and press **Finish** to restart your computer.



6. Open the **EZSetup Wizard**.



2) EZSetup (Default)

Wireless LAN setup will complete in two easy steps.

- 1** Push **EZSetup** over 3 sec. and release.

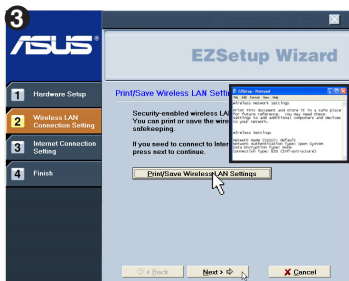


- 1) If the setup button is pushed without running the EZsetup wizard utility, the PWR indicator will flash and Internet connections will pause for a short period but will then return to normal operation without change.
- 2) You must have ASUS wireless clients such as WL-100gE, WL-100g Deluxe and WL-167g to use WL-520g EZSetup.



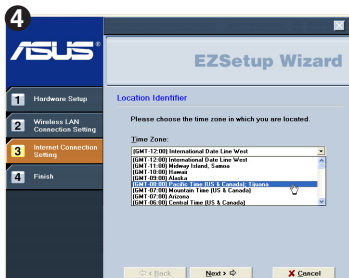
Click the **EZSetup** button in the utility.

Note: Use EZSetup Wizard with one wireless client at a time. If the wireless client computer cannot discover the wireless router while in EZSetup mode, please shorten the distance between the client and the router.



Security-enabled wireless LAN environment is built now. You can print your key and your other network settings for your reference.

Wireless LAN setup is complete. Click **Next** to make Internet connection settings.



Choose the time zone where you are located in.



Select the connection type (Cable or ADSL) you use. (Example: Cable modem or other connection type that gets IP automatically)

(ISP requirements depend on selection in the connection type.)

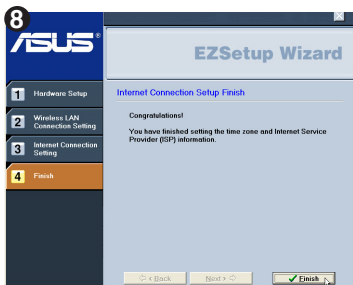
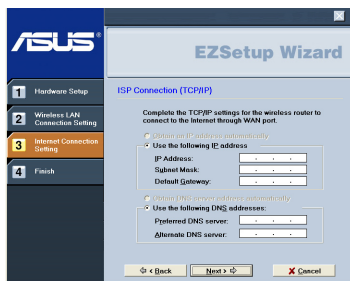
Depending on the connection type you selected, you may require additional information from your ISP. Some fields are optional and may be left blank.

7

Depending on the service level you applied for with your ISP, your IP may be random (automatic) or fixed (enter manually).

Example 1: Cable Modem or other connection type that gets IP address automatically

Example 2: ADSL or other connection type that uses static IP address.



3) EZSetup (Customized)

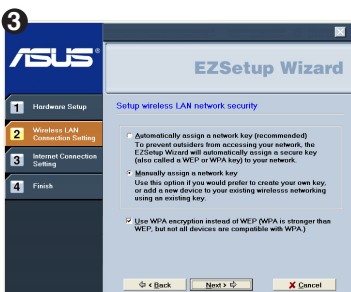


Only differences between the default setup will be shown below. Select the **Customization** check box for advanced wireless LAN functions.



You can check for automatic or uncheck for manual wireless network naming.

You must enter a name if unchecked.



You can choose to use automatic or manual security key.

If all your clients are using ASUS WPA capable wireless network adapters, you can select **WPA** for extra strength security. (This selection will only be available for ASUS WPA adapters.)

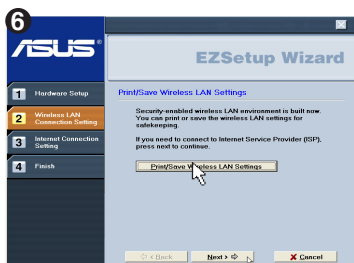
(WEP or WPA depends on security selection in the previous screen.)



If you chose "Manually assign", enter a WEP (Wired Equivalent Privacy) key following the guideline as shown.



If you chose "Manually assign" and selected the WPA check box, enter a WPA (Wi-Fi Protected Access) key following the guideline as shown.



Security-enabled wireless LAN environment is built now. You can print your key and your other network settings for your reference. Wireless LAN setup is complete. Click **Next** to make Internet connection settings.

*For the following steps of Internet settings, please refer to P14~P15 Step 4~8.



7. Appendix



FCC Warning Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



CAUTION:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Prohibition of Co-location

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter

Safety Information

To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna.

Declaration of Conformity for R&TTE directive 1999/5/EC

Essential requirements – Article 3

Protection requirements for health and safety – Article 3.1a



Testing for electric safety according to EN 60950-1 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1 and EN 301 489-17 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328- 2 has been conducted. These are considered relevant and sufficient.

CE **CE Mark Warning**



This is a Class B product, in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Technical Construction file in accordance with R&TTE Annex III

Under the provisions of Annex III point 2 of the **R&TTE directive 1999/5/EC** of the European Parliament and of the Council of 9 March on Radio equipment and Telecommunications Terminal Equipment (R&TTE directive) and the mutual recognition of their conformity,

We, the undersigned,

| | |
|----------------------|--|
| Company | ASUSTeK Computer Inc. |
| Address, City | 4Fl., No.150, Li-Te Rd., Peitou, Taipei, |
| Country | Taiwan 112 |
| Phone number | 886-2-28943447 |
| Fax number | 886-2-28950113 |
| E-mail | lawrence_yu@asus.com.tw |

Have established a Technical Construction File as specified below to be inspected to any Member States and to be kept available to the relevant national authorities of any Member State for inspection purpose:

| Item number | Technical Document description |
|--------------------|--|
| 01 | Technical File in accordance with R&TTE directive Annex II point 4 |
| 02 | Declaration of conformity to specific test suites described in R&TTE directive Annex III |

For the following product:

| | |
|---|-----------------------|
| Product Description / Supplementary Info | ASUS Wireless Router |
| Manufacturer | ASUSTeK COMPUTER INC. |
| Brand | ASUS |
| Type | WL-520G |

The Technical Construction File as specified above will be kept for a period ending at least 10 years after the last product has been manufactured at the disposal of the relevant national authorities of any Member State for inspection purpose,



| | |
|---|----------------------|
| Draw up in | Taiwan |
| Date | 2005/03/15 |
| ASUSTek Computer Inc. 4/F, 150, Li-Te Rd., Peitou, Taipei, Taiwan 112 | |
| Signature & company stamp | LawrenceYu / Manager |



Federal Communications Commission Declaration of Conformity (DoC)

for the following equipment:

Product name : 125 High Speed Wireless Router
Model name : WL-520G
Trade name : ASUS

Is herewith confirmed and found to comply with the requirements of CFR 47 part15 Subpart B - Unintentional Radiators regulation. The results of electromagnetic mission evaluation are shown in the report number : A5415050105

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received,
including interference that may cause undesired operation

| Manufacturer | USA local representative |
|---|---------------------------------|
| Company name: ASUSTeK Computer Inc. | To be determined |
| Computer address: 4/F, 150, Li-Te Rd., Peitou, Taipei, Taiwan | |
| ZIP / Postal code 112 | |
| Contact person: Lawrence Yu | |
| Title: Manager | |
| Internet e-mail address: lawrence_yu@asus.com.tw | |
| Tel / Fax: 886-2-28943447 / 886-2-28950113 | |

Report No.: A5415050105, **FCC Part** 15.247

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